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STRATEGY RESEARCH PROJECT

PRINCIPLES OF WAR IN THE TWENTY FIRST CENTURY

BY

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Pakistan Army

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ABSTRACT

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This study addresses the issue of the relevance and efficacy of the existing principles of war of the U.S Army. The treatise posits that the current principles may be suited for fighting battles and campaigns, however, they may not be relevant and sufficient at the grand strategic and strategic levels of war planing and execution. While it appears that the present principles may have withstood the test of time, neverthe-less, there are other more significant precepts that have influenced the course of warfare. These are information dominance, internal consensus/favorable public opinion, successful exterior maneuver/international support and correct identification of the center of gravity. The preceding would be more relevant in future environment and must therefore be accepted as new principles to supplement the existing list.

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PRICINLES OF WAR IN THE TWENTY FIRST CENTURY

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BRIG RAZR MUHAMMAD KHAN, PAKISTAN ARMY

INTRODUCTION

Principles of war provide guidelines for successful executions of wars. These are based on past experience and present/future environment. A Capstone US Armed forces document entitled Joint Pub 1, Joint Warfare of the Armed Forces of the United States acknowledges that "...the principles of war represent the best efforts of military thinkers to identify those aspects of warfare that are universally true and relevant ." The Pub stipulates adoption of nine principles by the US armed forces. These are "..objective, offensive, mass, economy of force, maneuver, unity of command, security, surprise and simplicity ." U.S Joint Pub 3-0 qualifies these principles further and states that principles of war "..guide war fighting at the strategic, operational, and tactical levels. They are the enduring bedrock of U.S. military doctrine." These publications cover the application of the principles of war, however, they do not hint at any revision of these principles. The U.S Army Manual, FM 100-5 goes to add that the "..original principles adopted by the Army, although slightly revised, have withstood the test of time" and that the "...army warfighting has long been based on well established principles of war

that have withstood the tests of time and experience and remain embedded in our doctrine." 5

Most principles of war (hereafter abbreviated as POW) are as old as the history of warfare itself. Many of these were formally listed and first applied during the Napoleonic era. These were tested, further refined and developed during the two world wars but since then, apparently no serious attempts have been made to reappraise their efficacy or to redefine/revisit them even when fundamental changes are clearly visible in the nature of future conflict, the dimensions of potential threats and the obtaining as well as the impending milieu. This could result in applying outmoded lessons to future wars and costly miscalculations, which no one could afford.

BACKGROUND

There is divergence of opinion about these principles even among great captains of war like Napoleon and military writers of high repute like Jomini, Clausewitz, Foch and Liddell Hart etc. Napoleon felt that ".... the POW are the same as that of siege. Fire must be concentrated on one point and as soon as the breech is made, the equilibrium is broken and the rest is nothing." ⁶ Jomini propounded four broad principles in his famous 'Precis', i.e., concentration of force against the line of the enemy's main effort, superiority at the point of decision at the strategic level, a similar action at the tactical level and speed." ⁷ However, he called these the principles of strategy and not of war. Clausewitz introduced the fundamentals of war, the three general POW, i.e., ascendancy of the moral to the physical, calmness/firmness and audacity and the four general principles of strategy, viz.,

concentration of force against the enemy's main effort, speed, public opinion and pursuit. In addition, he outlined a separate set of principles for offensive and defensive operations at the tactical level.8 Marshal Foch enunciated four POW, e.g., economy of force, freedom of action, free disposal of forces and security. He also propounded two principles of strategy, "the intellectual element and the philosophy of reason, the spiritual element and the exaltation of the will." Liddell Hart crystallized his entire thought process on winning of wars in six positive and two negative maxims (indirect approach being the dominant maxim), however he also preferred to parallel these with the principles of strategy. Andre Beaufre is of the view that since modern wars are no more a mere military phenomenon, there is an overlap in it in the sphere of internal policy, external affairs, economics and military operations. He goes on to recommend that mastery of strategy in these fields should be acquired to assist policy for the purpose of winning wars. However, he also hints at what appears to be a formula for the success of strategy viz., "...to reach the decisive point thanks to freedom of action gained by economy of force"¹⁰. The foregoing gives rise to some confusion about the true spheres of strategy and the POW, however both appear to be purporting the same purpose, i.e. victory in war. Bernard Brodie observes the following on the subject:

Although Clausewitz himself frequently speaks loosely of certain principles to be observed and followed – he could hardly do otherwise than seek to establish certain generalizations at least in his analytical works – he specifically rejected the notion that there could be any well defined body of particular rules or principles that universally dictated one form of behavior rather than another. The latter idea seemed to be suggested by his contemporary, Antoine Henri Jomini, who has since been

endlessly quoted for his remark: "methods change but principles remain unchanging". However, it was not until the 20th century that various army field manuals would try to encapsulate centuries of experience and volumes of reflections into a few tersely worded and usually numbered principles of war. Clausewitz would have been appalled at such attempts, and not surprised at the terrible blunders that have been made in the name of those principles. there is more of the same, which seem in the aggregate to be putting the entire emphasis on the "instinctive judgement" that comes only with practice and experience. These statements are basically opposed to any conception of tightly worded principles that suggest a computerized tabulation or keyboard where pressing the right button produces the right answer. it may well be that the consideration of a catalogue of numbered principles (usually fewer than a dozen) with the barest definition of the meaning of each may be necessary to communicate to second-order minds (or minds too busy with the execution of plans to worry about the specific validity of the ideas behind them) some conception of what the business is all about. 11

AIM OF THE DISCOURSE

In the preceding backdrop, a foundation has been laid for an analytical reappraisal of the existing POW to test their validity and efficacy, in an effort to bring them in harmony with the dictates of future wars, and to suggest additions/modifications to these if necessary, to win wars in the 21st century.

SCOPE

The reflections contained in this discourse shall mainly address issues at the grandstrategic, strategic and operational levels.

Application of the principles of war is also a function of the quality of leadership/generalship and tactical acumen. However, these matters have been deliberately omitted from this treatise, except for proving the validity of certain arguments.

EXISTING PRINCIPLES OF WAR

Although the current nine POW of the U.S. Army (Objective, Offensive, Mass, Economy Of Force, Maneuver, Unity of Command, Security, Surprise and Simplicity) are similar to POW adopted by most other major armed forces/ armies of the world, the application/ interpretation of these principles contained in Joint Pub 1 is rather hazy. For instance, it mentions concentration of military power, maintaining the initiative, agility, freedom of action, and knowledge (of self and the enemy) etc as "....concepts derived from applying the principles of war in the specific context of joint warfare." Presented as they are, it seems as if additional or new principles, termed as 'fundamentals' for joint war fighting are being advocated (Compare these fundamentals to the POW adopted by other nations i.e. Concentration is a POW adopted by UK, France and China.

Freedom/Liberty of action is a French POW). The preceding fuzziness in terminology

not withstanding, the first question that comes to the mind is if the current POW are relevant and adequate in the present and future, domestic, regional and global environment, in the various forms of war, such as conventional, nuclear, guerilla and asymmetrical wars, to name a few?

The Gulf War could serve as a vehicle to answer parts of the question posed above. The Air Campaign by the Coalition forces created the necessary conditions for the success of the ground operations. The Coalition maritime assets/navies and air forces transported the troops and the wherewithal to the battlefield, with out which, the ground operations would not have been possible. Neither the air, nor the ground operations could have succeeded, as they did, without the essential host nation support, and the intelligence/information about the enemy and own or friendly forces. Multinational and Coalitions operations as well as support of regional allies played a dominant role in achieving the war aims. In fact, it would be fair to assume that the center of gravity of the Allies that opposed Saddam Hussein may have resided in the Coalition itself. The United Nations provided the necessary authorization/global legitimacy to the war. The multinational character and nature of this war, the tremendous influence of information operations on the whole gamut of activities, and the necessity of a favorable world opinion for success, clearly stood out in the Gulf War. These principles would assume greater significance in all future wars. This war had the support of the U.S. proletariat. Had the support of the masses been wanting, as was some what the case in the Vietnam War, its outcome could have been different. Thus, while the existing POW may have stood the test of this war at lower level, there were indeed other factors that worked at higher levels and without which, any other postulate could be meaningless. This very

cursory glance at the most recent war points towards other POW that may be needed at the highest possible levels in all wars, present or future.

The existing POW do not seem to cater for adjustments necessitated by future environments. Some significant aspects of the future milieu would include proliferation of weapons of mass destruction as well as long range ballistic missiles, increased incidents of terrorism, further developments in information technology, shrinking defense budgets and the rise of regional hegimons. As a consequence, there would be greater reliance on collective security measures, through coalitions and alliances like the NATO etc. The UN would also exert a much greater influence than it did in the past environments.

The current POW appear more applicable to specific conventional operations and battles rather than the entire range of warfare under all environment. For instance, the principle of 'mass', whether it is of effects or forces is more relevant to conventional operations. Under nuclear, chemical or biological warfare milieu, 'dispersion' may be the substitute for this principle.

Considering the revolutions in military affairs, brought mainly by sophisticated/ advanced technological developments, the principle of 'simplicity' appears rather simplistic. It assumes that a war plan that is not simple is likely to fail. While this may be a fair assumption, simple plans may not be always the best plans. Often, a less simple but workable, well-rehearsed and properly coordinated plan may have a better chance of success. Should 'simplicity' then remain a POW in this complex world? Whether it does or does not, there certainly is place for some other, more relevant, fundamental and key axioms in the theory and practice of war.

As stated earlier, a theory, precept or a notion of war can be labeled as a principle on the condition that it provides guidelines for the successful execution of wars as the name suggests- not campaigns or battles. It would indeed be preferable if a principle is all encompassing and can serve both these purposes. The current list of POW appears restricted to provision of guidance, mainly for the latter and is therefore imperfect.

Besides, they may not be able to stand the acid test of sufficiency/adequacy. In fact there are other factors that are constantly playing the key role in winning wars, yet paradoxically, they seem latent and insignificant, since these have rarely been collectively discussed under some imposing appellation (even if only apparently) such as the title of this paper. The ensuing text outlines and elaborates four new POW and how these principles may provide, general and some specific direction for warfighting under the present and prospective global environments.

NEW PRINCIPLES OF WAR

Information Dominance

The Information Age in which we are living today has fundamentally altered the nature of warfare. It has almost eliminated the 'fog' of war, enabled most senior commanders to fight the war through remote controls, reduced the need for ground reconnaissance and made the necessity for upwards flow of information less critical. Since it has given rise to a non-hierarchical command information structure, it may have deeply influenced the element of initiative of subordinate commanders and the responsibility of senior commanders by virtue of their ability to easily influence

operations. Some contemporary military thinkers have termed information operations as the "third cycle of war", ¹² but feel that unless the maneuvering forces are also provided the additional means of mobility that matches the rapid advances in information technology, the opportunities provided by information dominance may not be fully exploitable. While this assertion may be true, it still does not reduce the significance of the subject per se. It has the potential to help in conducting many forms of military operations almost *bloodlessly* (at least for one side), as demonstrated by the US air and Cruise Missile strikes against Iraq, Sudan and Afghanistan during the year 19 98.

Information operations can be used to influence the attitudes, behavior and even the deep- seated beliefs of the opponents if applied for a sufficiently long duration. The unification of Germany and the collapse of the Soviet Union could be cited as examples in this regard.

Prominent, past military philosophers also clearly understood the importance of the subject. Sun Zu advised us over 2500 years ago that if we kept ourselves informed about our adversaries as well as ourselves, we could hope to win hundreds of battles.

Machiavelli believed that a good general could be differentiated from an ordinary one on account of the former's foreknowledge about the enemy. Napoleon equated an agent at the right place to 20,000 soldiers. One of the major reasons given by Wellington for his victory at Waterloo was prior information about Napoleon's forces. Jomini paralleled knowing with conquering. Clausewitz devoted a full chapter to information in war in his monumental work, 'On War'. He stated in the opening sentences of Chapter 6 that "... information is the foundation of all our ideas and actions, 14..." in war. These thoughts per se could have influenced the German Army to adopt this POW.

In the last decade of the Twentieth Century, the main thrust of military technology has been directed at winning the information warfare. Today the developed countries are so 'net-work' dependent that their very survival can be threatened by any one who can disrupt this network. This is equally applicable to the civil as well as the military sectors. If the issue involves a 'survival interest', should it not deserve a consideration for adoption as a POW?

The electronic media, that includes commercial broadcasts/telecasts, the press and the internet shall play the most dominant role in this field and any one who controls such assets may be able to shape and control present and future events, whether these are at home or abroad. With computing powers more than doubling every eighteen months or so, and developments in fiber optics technology allowing transmissions of an entire encyclopaedia in a few seconds, military applications of artificial intelligence may soon fundamentally change the nature of warfare throughout the world. Like telecasts and radio broad casts, the internet does not recognize national or international boundaries and terms like non lethal or soft wars utilizing the powers of these media are already in vogue. However, the lack -some say even absence of state control over the internet is giving rise to serious concerns among governments circles. The dangers of 'web spoofing' and other forms of attacks by hackers are quite well known and some counter measures to these have only recently surfaced. 'Trojan horses', 'logic bombs', 'trap doors', 'worms', 'chipping' and 'nano machines' are some of the new weapons of this type of war.

In view of the forgoing, there is a need, to give information and intelligence the place they deserve that of a POW.

The power of the media would also increasingly and more profoundly influence domestic public opinion in the future, which is considered next.

Internal Consensus and Public Opinion.

The significance of Clausewitz's trinity of 'the people, the government and the military,' in all the affairs of warfare is well known, however had he lived to observe the influence of the media on public opinion, he may have added it to his list. Clausewitz lived in an era of monarchies, which is why he may not have felt the need to signify public support in the theory of war, however, he emphasized the importance of this factor in the reverse order, i.e. to win public support through great victories or the occupation of the enemy's capital city. Modern democratic institutions are built on the will of the people. War is therefore the concern of all citizens. Domestic consensus among the elected leaders, the intelligencia and even the media should therefore be the corner stone of all war policies/ plans. History bears testimony to the fact that a conflict between the will of the people and the policies of the government or even the military could prove extremely detrimental to the achievements of the war objectives. Sometimes public opinion may sway back and forth, against or in support of wars, in accordance with the way in which military operations progress. Such a state of affairs may arise if the people have not been prepared by the political leadership, for the impending events, in advance. In case of a protracted war or a war that leads to large human casualties, the people must have a very strong conviction in the cause for which the nation has gone to war. The absence of this condition will invariably lead to an erosion of the public support to

military operations, which in turn could lead to an erosion of military morale and may even compel the national government to terminate the war –sometimes under undesirable conditions. Some proof of such a phenomena could be found in the Viet Nam War and the Soviet invasion of Afghanistan. Thus the need to elevate this factor to its rightful place- as a POW.

As the transformation of the world into a global village continues with developments in communications, the attitudes and convictions of the masses will also be increasingly influenced by the international opinion. This is discussed in the ensuing text.

Successful Exterior Maneuver and International Support.

The outcome of wars in the next century will be contingent upon the world opinion and the support of the comity of nations. For this, a successful 'exterior maneuver' that aims at an adroit manipulation of the foreign affairs would play a vital role. Some consequences of ignoring this issue are: Despite his operational genius, demonstrated in the battles of Jena etc, Napoleon was decisively defeated at Waterloo by the last coalition of nations that formed against him. The German Blitzskriek in Poland in 1939 and France in 1940 were indeed very fascinating and impressive, however, Hitler failed to keep one of the great powers i.e. the USA, Britain or Russia neutral, during the conflict, which led to his defeat in World War II. Saddam Hussein of Iraq and his people have indeed paid a very heavy price for acting against the international will. The erstwhile Soviet Union was humiliated in Afghanistan due to lack of international support for their actions in that country.

The lesson learnt for the future is that diplomacy must assert and at times even over assert its legitimate role as the first means achieving the goals and interests of

nations. At the same time, rouge nations and aggressors would be difficult to discipline unless the punitive measures applied against them are endorsed by the UN, repeatedly and unanimously. The events in Iraq, following UNSCOM's withdrawal from that country in December 98 reinforces this view point. It was amazing to find three permanent members of the UN Security Council (Russia, China and France) opposing the military strikes by the US and the UK on that occasion, when all these countries had supported a similar action only a few weeks back at the same forum. The ultimate outcome of the Serbian stand point on the Cosovo issue can not be determined at this time, however, it appears that the world opinion will eventually prevail in that conflict as well.

It may seem that this factor is more pertinent for smaller powers, which may wish to further their interests against bigger, more powerful states. However, even the great powers may not be able to take this factor for -granted for a number of reasons. In the future, international support to war related acts by them may not be easily forthcoming, since the world is no more unipolar and many of the threat based reasons of the past, which kept alliances in tact, are now not considered enough or valid for unanimity of decisions or mutual support which may clash with national interests. This phenomenon may have already given rise to competition even among old allies. Possible economic clashes of interests such as the challenges posed by the Euro currency to the U S Dollar or the trade deficit issues been the US and Japan (or China and the US) are now well.

And of course, the big powers will have to reckon with the impact of the independence of the media.

Finally, if future wars or military operations other than war (MOOTW) are desired to be multinational in character, the importance of this factor in war planning can not be ignored. But whether it is war or MOOTW, the first and perhaps the most vital factor for planning would be the identification and the tackling of the adversary's center of gravity.

Identification of the Center of Gravity

The US Joint Publication 3-0 stipulates that "In theory, destruction or neutralization of enemy centers of gravity (COG) is the most direct path to victory¹⁵. It also emphasizes the need for identification of the COG of own and enemy forces. In fact, no war planning can proceed as desired or succeed without the correct determination of the opposing COG at many levels, yet this vital aspect fails to find a mention in the current list of the POW. It could be argued, that the first principle i.e. 'Objective' may well include a determination of the COG, however, this intention is not purported in the glossary of the terms found in a US or any other commonly known military publication. In any case, 'Objective' would mean the political or military purpose or aim of the war and thus, it would remain distinct from the term COG. A US army War College, Center for Strategic Leadership document entitled 'Center of Gravity: Determination, Analysis and Application', states that: "Center of gravity determination is a critical concept, yet it is poorly understood and inconsistently applied." It observes that the various US Services have different interpretations of the term and in the end recommends a comprehensive but a rather complicated methodology for the purpose. Clausewitz explained the notion of center of gravity (COG) in the following words:

--- one must keep the dominant characteristics of both belligerents in mind. Out of these characteristics a certain COG develops, the hub of all power and movement, on which everything depends. That is the point against which all our energies should be directed. ----. Still no matter what the central feature of the enemy's power may be- the points on which your efforts must converge- the defeat and destruction of his fighting force remains the best way to begin, and in every case will be a very significant feature of the campaign. ---- the acts we consider most important for the defeat of the enemy are--

- 1. Destruction of his army, if it is at all significant
- 2. Seizure of his capital if it is not only the center of administration but also that of social, professional, and political activity.
- 3. Delivery of an effective blow against his principal ally if that ally is more powerful than he. 16

Clausewitz recorded his observations on the subject in Chapter Four of his book, which he sub-titled as 'Closer Definition of the Military Objective: The Defeat of the Enemy'. Some apparent ambiguity in the first sub-paragraph above, is removed if one reads it in context of the sub-title of the Chapter, which places the defeat of the enemy as the end state, and thus the destruction of the armed forces as one of the ways to do so. This raises the other two obvious questions: Is it possible to seize the enemy's capitol without first defeating his armed forces? And would the defeat of the principal ally in a coalition also not involve the overcoming of his armed forces? The answer is provided by what Clausewitz states himself in his initial arguments stated above, that the enemy's 'fighting force' stands out as his ultimate COG. However, this may be a rather narrow view of the issue as the armed forces may not be always the hub of all power or movement. For instance, the Soviet Union was defeated in the so -called Cold War without the defeat of its armed forces. This happened despite the generally perceived fact, that the West/ Capitalist block did not make a sufficiently zealous effort to target the other CsOG of that Country, namely, its economic system or its leadership etc. Perhaps, the COG of the Soviet system resided in multiple areas and it was imbalanced more by the internal as compared to external factors.

In terms of categories, the military forces could be called the strategic and the remaining factors as the grand strategic CsOG. Operational CsOG may reside in various components of the armed forces or the military potential. During the North African Campaign in World War 11, the true hub of the Axes powers or their COG appeared to reside in the German forces, however it actually lay, as latter events proved, in the Axis logistical stamina.

A scientific definition can be derived from the laws of physics, wherein the term denotes the state of balance or equilibrium of an object or a system which, if sufficiently disturbed, could lead to the collapse of the system.

Having identified the enemy's COG, the next logical step in the formulation of all military plans is to use this information (the application phase of operations) for the defeat of the enemy. In this regards, the lesson that one learns from recent history (some aspects alluded to in the preceding arguments) is, that in cases where the military is so powerful that it is difficult to defeat it, other more 'softer' CsOG may be considered for dislocation. Two approaches can be adopted for the purpose. The first is the indirect approach and the second a direct one. Joint Pub 3-0 proposes that "to the extent possible, JFCs (Joint Forces Commanders) attack enemy centers of gravity directly. Where direct attack means attacking into an opponents strength, JFCs should seek an indirect approach". This statement needs to be modified /revised as it conveys the impression that a COG could also be something other than the strength of a belligerent. The direct approach would succeed only if own side has a very clear preponderance of means, however, the cost of victory may still be high in view of the clash of the opposing CsOG. The indirect approach first aims at reducing or diminishing the power of the opposing COG, and then tackling it in an unexpected manner, thus ensuring success at minimal cost. Obviously, the real art of war is manifested by the latter approach. For instance, if a country's COG is determined to be residing in its leadership, then that leadership must be weakened/discredited first, through political, economic, diplomatic and /or informational means. Thereafter, military means could be applied through the auspices of the UNO (for legitimacy as well as the indirectness of the approach) at a least expected time, an unexpected place and in a non-routine manner. Both Sun Tzu and Liddell Hart are very strong proponents of this approach. Further elaboration of the foregoing is omitted as it would fall into the realm of strategy and would also be out of the scope of this undertaking.

CONCLUSIONS

Like any mundane trade, wars and MOOTW need to be directed by a few well-contemplated and tested principles. The need to do so for wars will obviously be greater than any other business and those who believe that such an exercise is only required for feeble/ second order or busy minds only, are not realists.

The POW must be continuously re-appraised to bring these in harmony with the dictates of the obtaining environment. This may be the most urgent as well as the most challenging doctrinal issue needing professional attention. This brief treatise is an incipient effort in that direction. Adoption of the four new principles suggested above could make victory in war more achievable, besides minimizing casualties- an end state desired by all strategic leaders.

The new/supplementary POW take a broader, all encompassing view of war. They provide guidance at the level at which decisions concerning war and peace are made. Global and regional powers as well as smaller nations, may have varying perspectives on wars and different pedestals from which they view them, nevertheless, in the present day interdependent, inter connected /networked world (a phenomenon that is likely to increase many fold in the near future) they must look for such principles of war that are applicable at the global and regional or grand strategic, strategic and operational levels. Equal relevance at all these levels would obviously be preferable but not essential. The principles of 'Information Dominance', 'Internal Consensus and Favorable Public Opinion', and 'Successful Exterior Maneuver 'to gain international support are directly pertinent at the first two levels and indirectly at the last level. Correct identification of COG, is relevant at all levels. All of these principles are applicable to military operations other than war or MOOTW, planned at the strategic level. They therefore merit consideration and adoption after further deliberations at appropriate levels.

Public Opinion and External Support may apparently look irrelevant below the national level, however, any errors, omissions, shortcomings or successes at that level

will profoundly influence the conduct and outcome of wars, campaigns and battles. We must take cognizance of a major lesson learnt from military history, that a viable war strategy at the highest level can sustain many operational and tactical flaws, however, the opposite is rarely true.

The new POW are end state related. Because the military leadership at the highest level must advise the national leadership on all issues that can influence the end state of wars, they must prudently ponder over them.

RECOMMENDATIONS

Since wars are commonly fought between or among *states*, the principles that guide war fighting must be conceived and applied *first*, at that level.

Two options are available for re-listing of the POW. The new POW could either be added to the existing one, beginning with the former and thereby adopting a total of thirteen (four plus nine) principles. Alternatively, the new precepts may be retained as the POW and principles of MOOTW, while the current ones designated as principles of military campaigns or operations. The latter arrangement appears more logical and should therefore be preferred.

Regardless of the foregoing, the current POW should be made to mean provision of guidance for only conventional operations. Additional / separate POW may be needed for nuclear, chemical or biological wars.

A final word of caution. The new principle of Information Dominance is mainly driven by technological considerations and it tends to induce over reliance on technological solutions. This is an aberration and needs to be guarded against, since warfighting will remain both an art as well as a scientific phenomenon.

ENDNOTES

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<sup>1</sup>U.S <u>Joint Pub 1</u>, 1995, p.111-1
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University Press, 1986) p.85

² Ibid.

³ U.S Joint Pub 3-0, 1995, p. A-1.

⁴U.S FM 100-5, p.2-4

⁵ Ibid, p.13-3

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¹⁰ Andre Beaufre, 'Introduction to Strategy' (New York, Praeger, 1965), p.35.

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¹⁵ Giles, Philip Kevin, 'Center of Gravity Determination', (US Army War College, CSL, Carlisle Barracks PA 1996) p.vi.

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